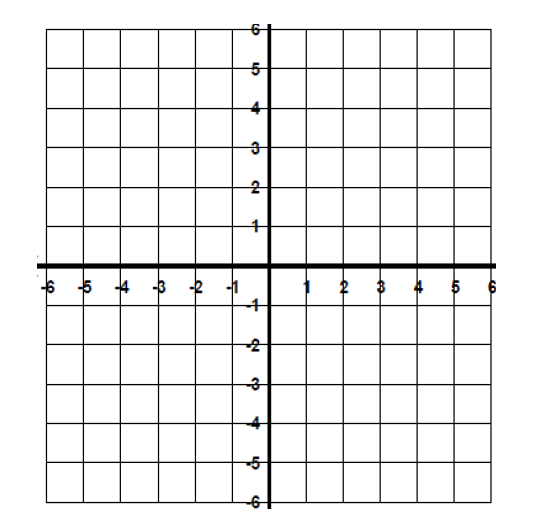
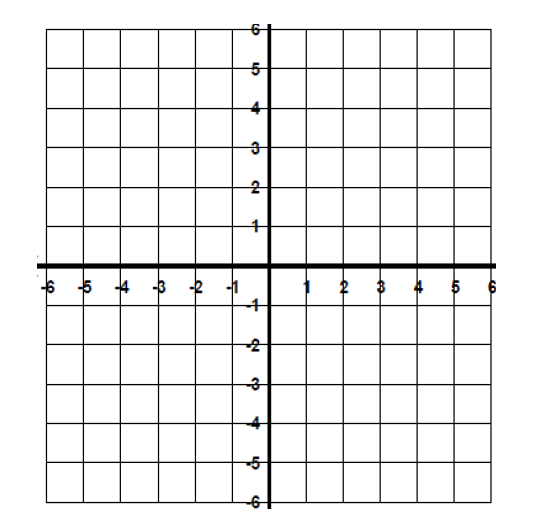
**Algebra II Name:**

**2.11 Review of Linear Functions Date:**

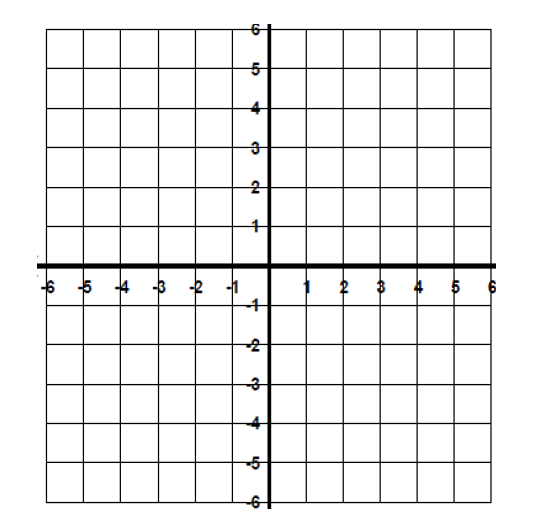
1. A line contains two points  and .
2. Determine the slope/rate of change of the line.
3. Determine an equation of the line in slope-intercept form.
4. Determine the coordinates of the x-intercept of the line.
5. Determine the coordinates of the y-intercept of the line.
6. **Challenge:** Convert the equation found in part (b.) above to standard form.



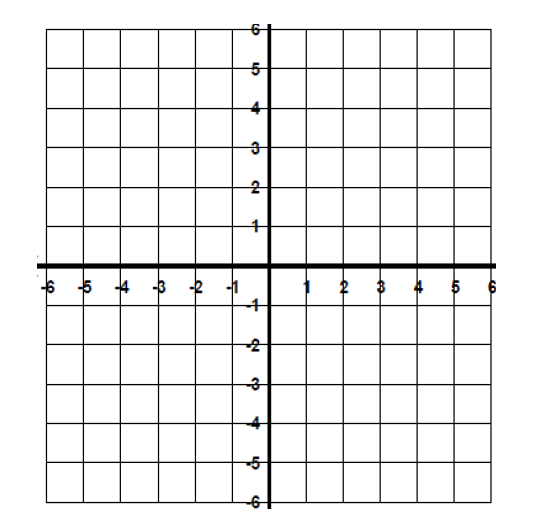
1. Graph the line with equation
2. A line contains two points  and . Determine an equation for the line.

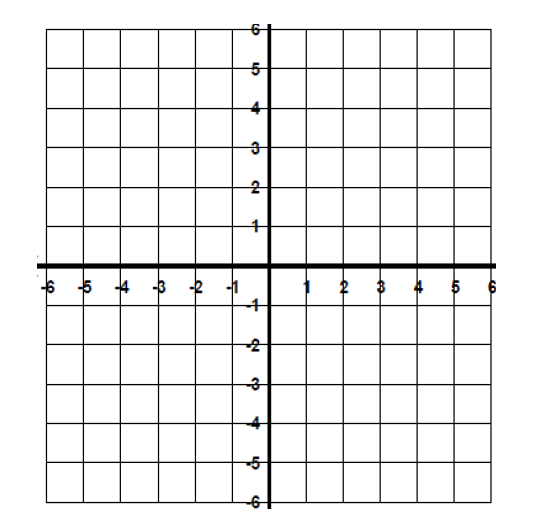


1. Graph the line with equation
2. A line contains two points  and . Determine an equation for the line.
3. Find an equation of the line with slope  and y-intercept .
4. Find an equation of the line with slope  and y-intercept 
5. Sabrina gets in her cab and notices the initial up-front fee on the meter. After 2 minutes, the meter reads $7.50 and after 7 minutes, the meter reads $13.75.
6. What is the rate of change in this scenario?
7. What is the equation or rule or formula that gives the cab fare as a function of time?
8. How much would a 15-minute cab ride cost?



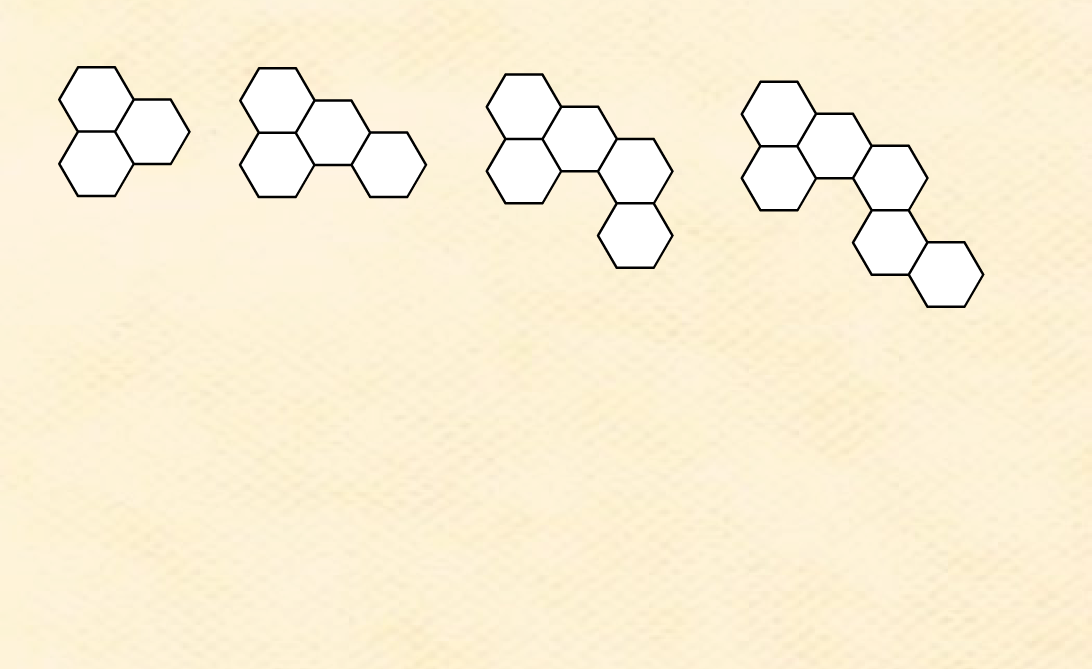
1. Graph the line with equation 
2. Determine an equation of the line that contains the point  and is parallel to the line with equation .



1. Graph the line with equation 
2. Determine an equation of the line that contains the point  and is perpendicular to the line with equation .
3. Graph the line with equation 
4. Determine which tables contain data representing a linear function.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a. | x | y | b. | X | y | c. | x | y | d. | x | y |
|  | 3 | 1 |  | 1 | 3 |  | -1 | 1 |  | -4 | -10 |
|  | 6 | 2 |  | 2 | 5 |  | -2 | 2 |  | -2 | -5 |
|  | 9 | 3 |  | 3 | 7 |  | -3 | 3 |  | 0 | 0 |
|  | 12 | 4 |  | 4 | 9 |  | -4 | 4 |  | 2 | 5 |
|  | 15 | 5 |  | 5 | 11 |  | -5 | 5 |  | 4 | 10 |

1. A water pump can remove water from a pool at a constant rate. 84 gallons are removed in 4 minutes and 189 gallons are removed in 9 minutes. What is the rate in gallons per minute at which the water is being pumped out of the pool? What is a rule or equation or formula that represents the amount of water being pumped out as a function of time? How many gallons are pumped out after one hour?
2. A linear pattern is drawn using circles and following the equation .
3. Write out how many circles their would be in Step 0, Step 1, Step 5, and Step 21.
4. What is the slope or rate of change of this pattern?
5. What step number would have 308 circles?
6. Considering the number of line segments in each drawing or term, what is the rate of change in the sequence of drawings? Write a formula that represents the pattern. How many line segments would be in the 20th drawing or term?

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